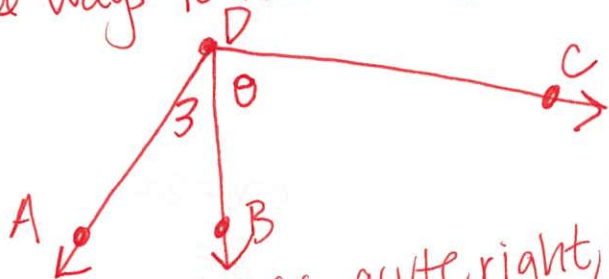
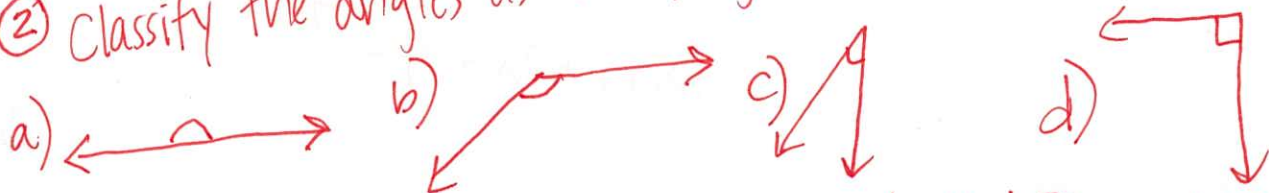


Angles Review

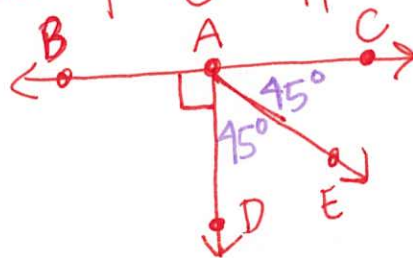
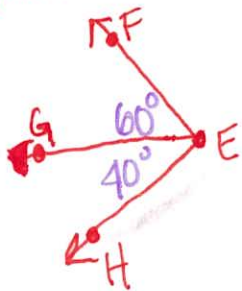
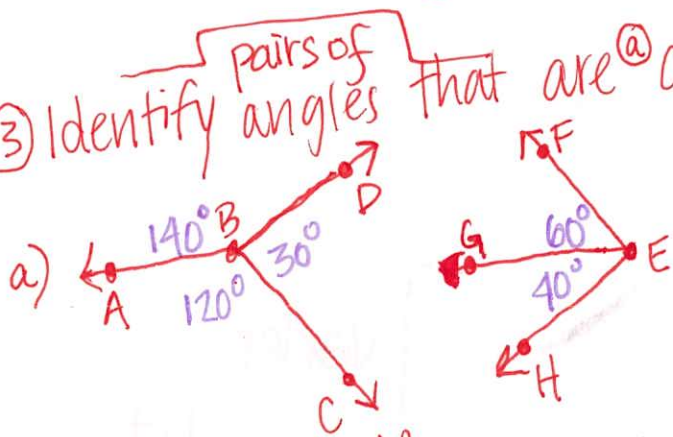
① List all ways to name angles w/ vertex D.



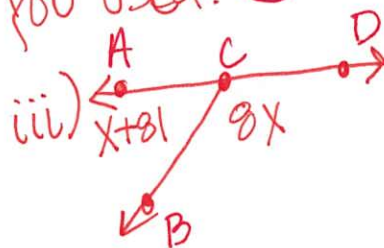
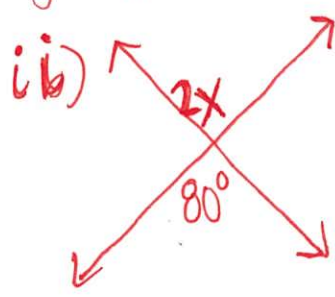
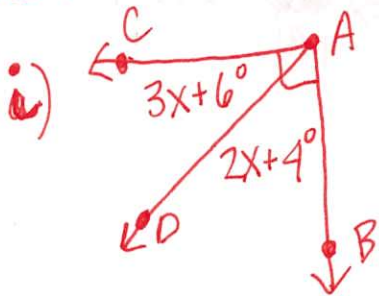
② Classify the angles as acute, right, obtuse, or straight.



③ Identify angles that are a) complementary & b) supplementary.



④ Find x. b) List the angle relationship you used. c) Find m∠



b) _____

b) _____

b) _____

⑤ Determine m∠ABC. List the angle relationship you used.

CRS	PPF 301 – Exhibit some knowledge of the angles associated with parallel lines (B3.1) PPF 401 – Find the measure of an angles using properties of parallel lines (B3.2)
Objectives	2.7 Identify the angles that are created when two parallel lines are intersected by a transversal 2.8 Use parallel line and transversal angle theorems to solve for the missing angle

New Stuff!

Exploration

Materials: graph paper, straight edge, protractor

Step 1: Draw a pair of parallel lines on the graph paper.

Step 2: Draw a non-perpendicular line through the two parallel lines. This is called a transversal.

Step 3: Label the top angles 1, 2, 3, and 4 in a clockwise direction and the lower angles 5, 6, 7, and 8 in a clockwise direction.

Step 4: Using a protractor, find the measure of each angle.

$m\angle 1$ _____ $m\angle 2$ _____ $m\angle 3$ _____ $m\angle 4$ _____

$m\angle 5$ _____ $m\angle 6$ _____ $m\angle 7$ _____ $m\angle 8$ _____

Question: What do you notice about the special angle pairs formed by the transversal?

Several angles are congruent when a pair of parallel lines are cut by a transversal.

Transversal: is a line that intersects two or more coplanar lines at different points.

Angles Formed by Transversals

Corresponding:

Alternate exterior:

Two angles in corresponding positions.

EX:

Consecutive interior:

Alternate interior:

Are they on the SAME side or OPPOSITE sides?

Are they on the OUTSIDE or INSIDE?



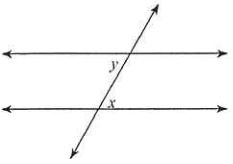
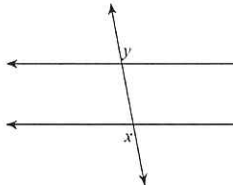
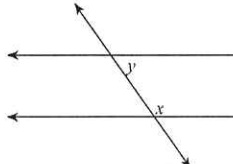
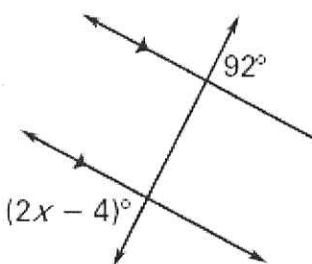
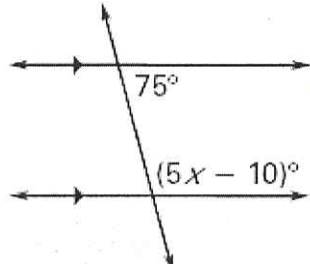
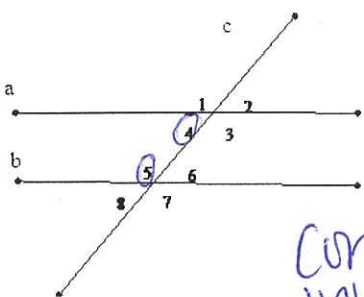
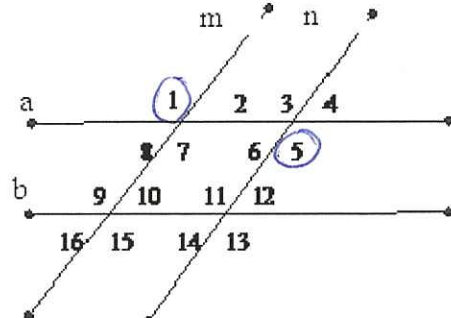
PUSH IT TO THE LIMIT.

CW#12: Find Unknown Angles
Geometry

Name: _____ TP: _____

CRS	PPF 501 Use several angle properties to find an unknown angle measure
Objective	2.9 Find the measure of a missing angle using complementary, supplementary, vertical, and parallel lines cut by a transversal angle properties

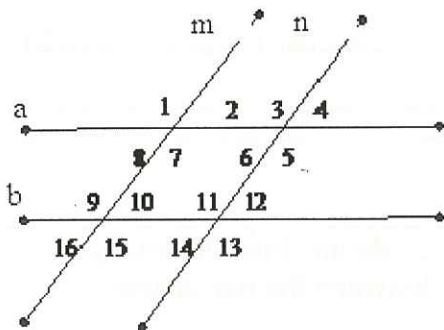
Review of Parallel Lines Cut by a Transversal

<p>1. Identify the relationship between the two angles.</p>  <p>AI</p>	<p>2. Identify the relationship between the two angles.</p>  <p>AE</p>	<p>3. Identify the relationship between the two angles.</p>  <p>CI</p>
<p>4. a) List the angle relationship. b) Find the value of x.</p>  <p>AE $2x = 96$ $x = 48$</p>	<p>5. a) List the angle relationship. b) Find the value of x.</p>  <p>CI $5x + 65 = 180$ $5x = 115$ $x = 23$</p>	
<p>6. In the figure below, line segments a and b are parallel and they are intersected by line segment c. What is the relationship between $\angle 4$ and $\angle 5$?</p>  <p>Consecutive Interior</p> <p>a. $m\angle 4 = m\angle 5$ b. $m\angle 4 < m\angle 5$ c. $m\angle 4 + m\angle 5 = 90^\circ$ <input checked="" type="radio"/> d. $m\angle 4 + m\angle 5 = 180^\circ$ e. Cannot be determined from the given information</p>	<p>7. If $\angle 1 \cong \angle 5$, then which pairs of lines, if any, must be parallel?</p>  <p>a. $a \parallel b$ only <input checked="" type="radio"/> b. $m \parallel n$ only c. $a \parallel b$ and $m \parallel n$ d. No lines must be parallel e. Cannot be determined from the given information</p>	

PUSH IT TO THE LIMIT.

8. (use answer choices to the right)!

If $\angle 2 \cong \angle 10$, then which pairs of lines, if any, must be parallel?



a. $a \parallel b$ only

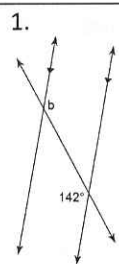
b. $m \parallel n$ only

c. $a \parallel b$ and $m \parallel n$

d. No lines must be parallel

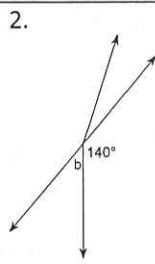
e. Cannot be determined from the given information

Directions: Solve for the missing angle and indicate the relationship between angles (complementary, supplementary, vertical, consecutive interior, corresponding, alternate interior, alternate exterior).



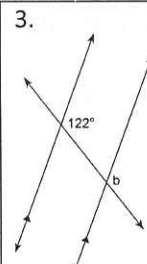
AI
142

Angle relationship:



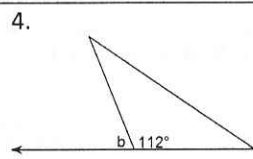
SUPP
40°

Angle relationship:



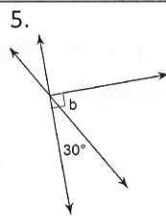
C
122°

Angle relationship:



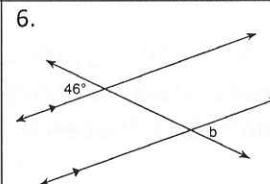
Supp
68°

Angle relationship:



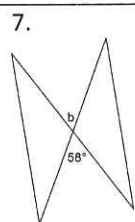
Comp
60°

Angle relationship:



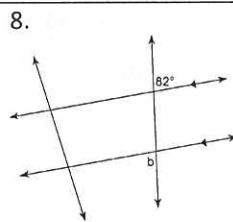
AE
46°

Angle relationship:



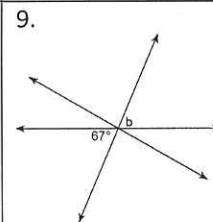
Vertical
58°

Angle relationship:



AE
82°

Angle relationship:



Vertical
67°

Angle relationship:

PUSH IT TO THE LIMIT.

Notes in Graphing Paper Notebook:

Step 1: Label all givens in the figure.

Step 2: Identify the angle you are being asked to solve for.

Step 3: Label other information that you can conclude or calculate in the figure.

***LIST ALL < RELATIONSHIPS USED.**

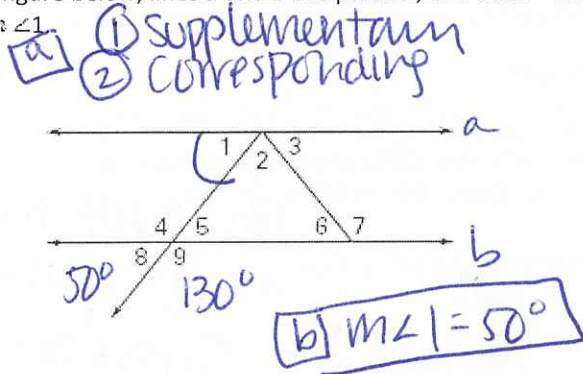
Step 4: Solve for the angle.

DIRECTIONS: A) List all angle relationships you used to help you find the missing angles. B) Find the missing angle.

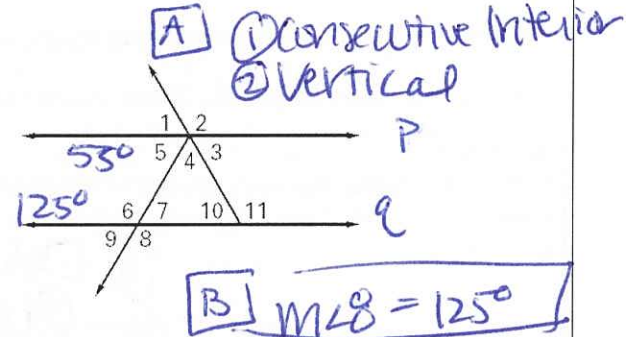
Example 1:

In the figure below, lines a and b are parallel, and $m\angle 9 = 130^\circ$.

Find $m\angle 1$.

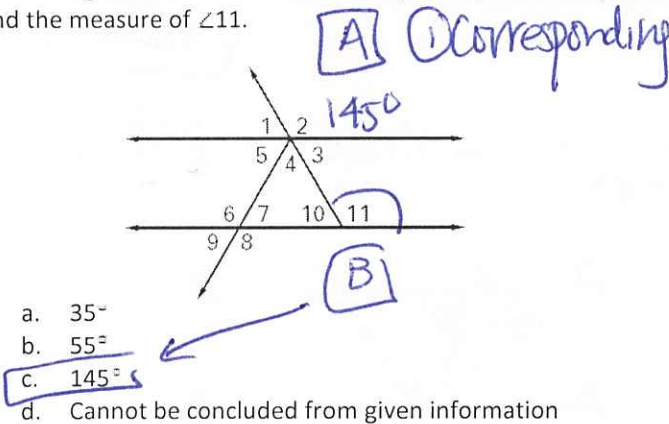


1. In the figure below, lines p and q are parallel, and $m\angle 5 = 55^\circ$. Find $m\angle 8$.



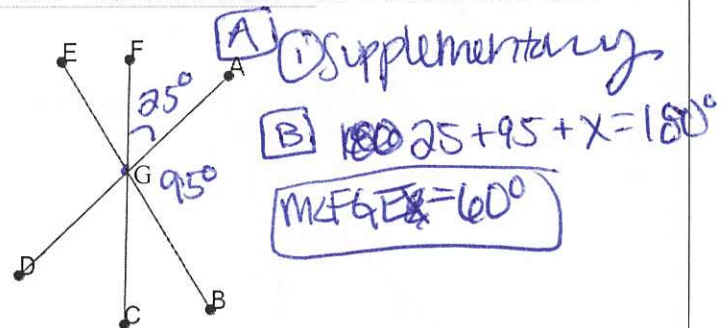
2. In the figure below lines a and b are parallel, and $m\angle 2 = 145^\circ$.

Find the measure of $\angle 11$.

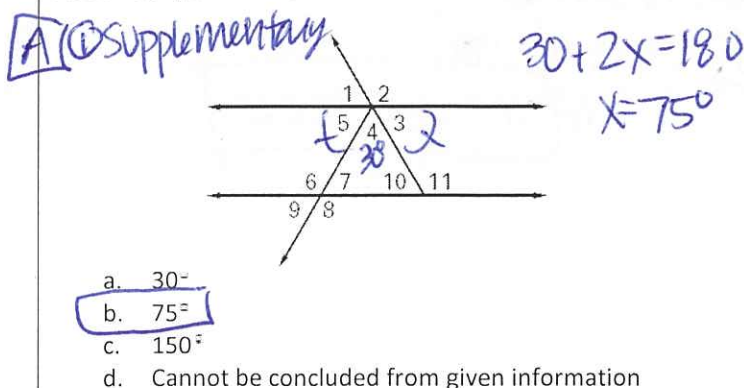


3. In the figure below, all line segments intersect at point G.

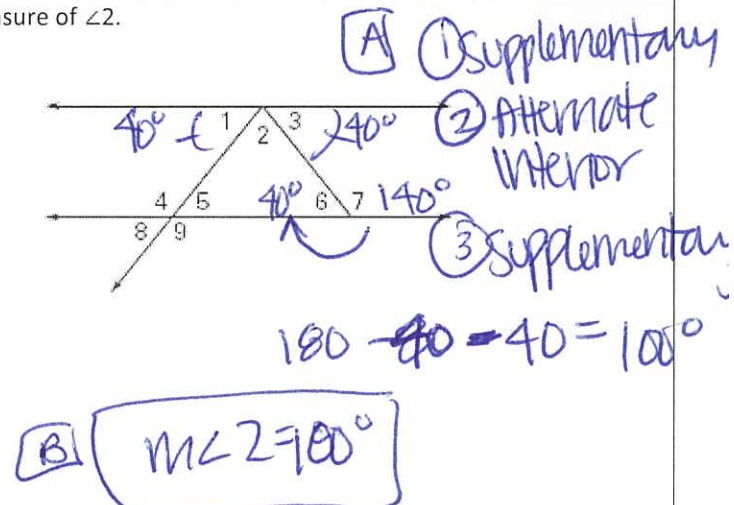
$\angle FGA = 25^\circ$ and $\angle AGB = 95^\circ$. What is $m\angle FGE$?



Example 2. In the figure below lines a and b are parallel, $m\angle 4 = 30^\circ$, and $m\angle 3 \cong m\angle 5$. Find the measure of $\angle 7$.



4. In the figure below, $m\angle 1 \cong m\angle 3$, and $m\angle 7 = 140^\circ$. Find the measure of $\angle 2$.



PUSH IT TO THE LIMIT.

5. Find the value of x .

Lines a and b are parallel.
 $m\angle 1 = 102^\circ$
 $m\angle 2 = (x + 1)^\circ$

A ① Vertical \angle s
 ② Consecutive Interior
B $102 + (x+1) = 180$
 $103 + x = 180$
 $x = 77^\circ$

6. Lines a and b are parallel. $m\angle 3 = 2x^\circ$ and $m\angle 8 = 4x^\circ$. What is the value of x ?

A ① Corresponding
 ② Supplementary
 $2x + 4x = 180$
 $6x = 180$
 $x = 30$

B $x = 30$

More graph paper notes:

Sometimes the parallel lines in the figure will be part of a quadrilateral or other shape. We can still treat any non-parallel lines that cross them as transversals. **EXTEND the lines!**

Example 3:
 In the figure below, segments MA and HT are parallel. $\angle HMA$, $\angle MAT$, $\angle ATH$, and $\angle THM$ are all right angles. If $m\angle 5 = 65^\circ$, what is the $m\angle 4$?

A ① Alt. Interior
 ② Complementary
B $90 - 65^\circ =$
 $25^\circ = m\angle 4$

1. In the figure below, segments MA and HT are parallel. $\angle HMA$, $\angle MAT$, $\angle ATH$, and $\angle THM$ are all right angles. If $m\angle 2 = 70^\circ$ and $m\angle 6 = 90^\circ$ what is the $m\angle 5$?

A ① Alt. Interior
 ② Supplementary
B $90 + 70 + x = 180$
 $x = 20$
 $m\angle 5 = 20^\circ$

2. In the figure below, $MH \parallel AT$ and $MA \parallel HT$. Which of the following angle congruencies must hold?

a. $\angle 2 \cong \angle 6$
 b. $\angle 3 \cong \angle 6$
 c. $\angle 2 \cong \angle 7$
 d. $\angle 7 \cong \angle 5$

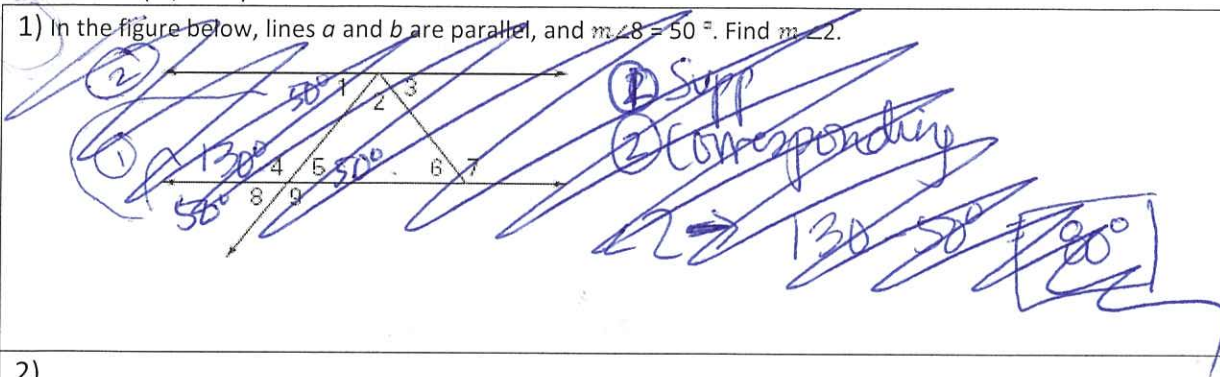
Alternate Interior

3. In the figure below, $\overline{DX} \parallel \overline{BE}$. If $m\angle DZC = 130^\circ$, what is $m\angle ZCB$?

A ① Supplementary
 ② Alt. Interior
 Consec. Interior
B $130 + x = 180$
 $x = 50^\circ = m\angle ZCB$

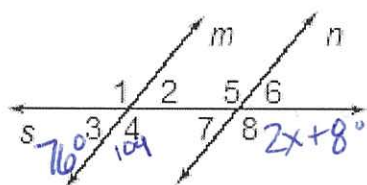
EXIT SLIP (w/ Ans)

1) In the figure below, lines a and b are parallel, and $m\angle 8 = 50^\circ$. Find $m\angle 2$.



2)

Lines m and n are parallel. If $m\angle 3 = 76^\circ$, and $m\angle 8 = (2x + 8)^\circ$, what is the value of x ?

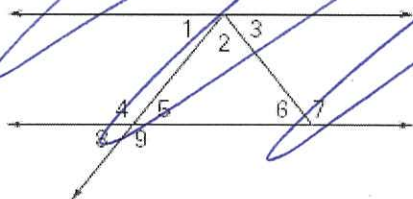


Handwritten solution for problem 2:

- ① Supp.
- $180 - 76 = 104$
- ② Corresponding
- $104 = 2x + 8$
- $x = 48^\circ$

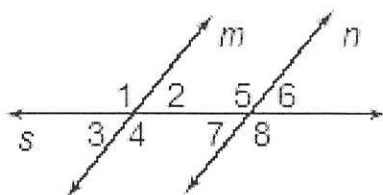
EXIT SLIP

1) In the figure below, lines a and b are parallel, and $m\angle 8 = 50^\circ$. Find $m\angle 2$.



2)

Lines m and n are parallel. If $m\angle 3 = 76^\circ$, and $m\angle 8 = (2x + 8)^\circ$, what is the value of x ?

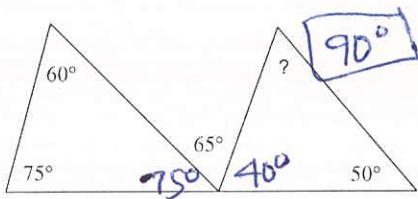


PUSH IT TO THE LIMIT.

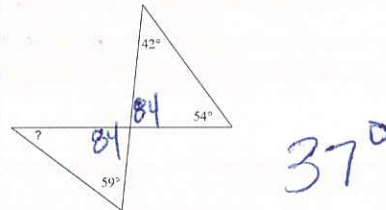
Graph Paper Notes:

The sum of the interior angles of any triangle is 180° . You can also use that knowledge to solve for missing angles.

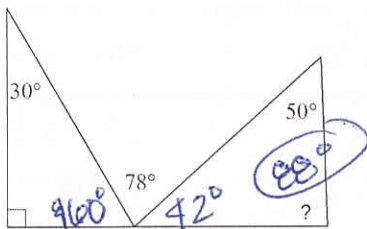
1. Find the measure of the indicated angle.



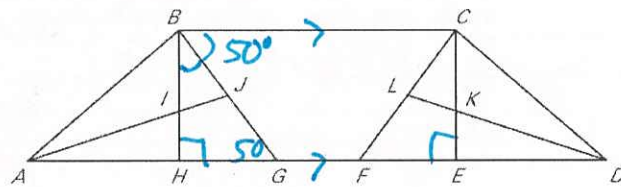
2. Find the measure of the indicated angle.



3. Find the measure of the indicated angle.



4. In the figure below, segments BC and AD are parallel, and $\angle BHG$ and $\angle CEF$ are right angles. If $\angle GBC = 50^\circ$, what is the measure of $\angle HBG$?



$$180 - 90 - 50 = 40^\circ$$

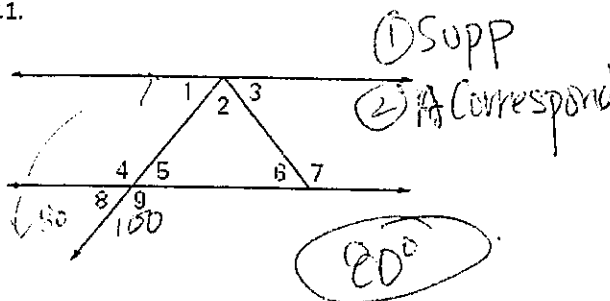
Name: TP:

HV#12: Find Unknown Angles
Geometry
Due Date: Wednesday, Sept. 26th, 2012

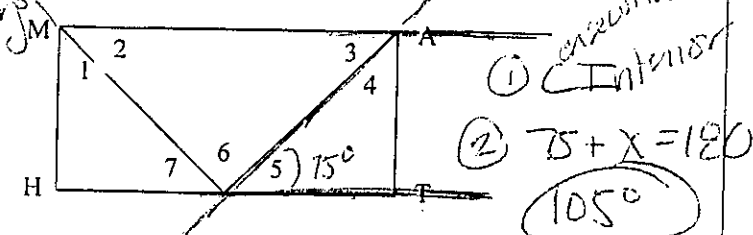
Failure to show work on all problems or use complete sentences will result in a LaSalle.

Find Unknown Angles

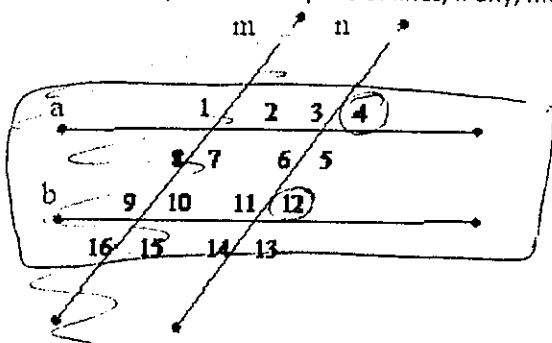
1. In the figure below, lines a and b are parallel, and $m\angle 9 = 100^\circ$. Find $m\angle 1$.



2. In the figure below, segments MA and HT are parallel. $\angle HMA$, $\angle MAT$, $\angle ATH$, and $\angle THM$ are all right angles. If $m\angle 5 = 75^\circ$ and what is the $m\angle 4$?



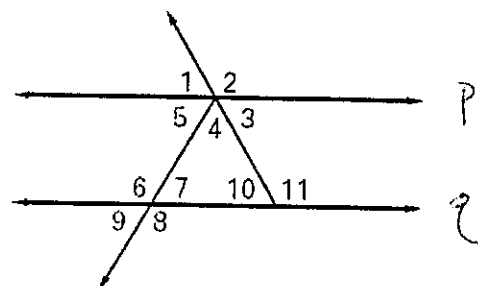
3. If $\angle 12 \cong \angle 4$, then which pairs of lines, if any, must be parallel?



- a. $a \perp b$ only
- b. $m \parallel n$ only
- c. $a \perp b$ and $m \parallel n$
- d. No lines must be parallel
- e. Cannot be determined from the given information

Justify your response: $\angle 12$ & $\angle 4$ are corresponding only in regards to lines a and b.

4. In the figure below, lines p and q are parallel. Which of the following must be true?



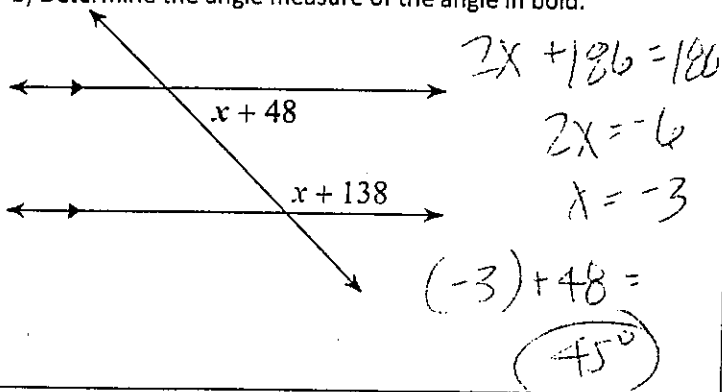
- a. $m\angle 5 = m\angle 2$
- b. $m\angle 6 = m\angle 4$
- c. $m\angle 5 + m\angle 7 = 180^\circ$
- d. $m\angle 5 + m\angle 6 = 180^\circ$
- e. None of the above

Justify your response: $\angle 5$ & $\angle 6$ are consecutive interior angles. Therefore, their sum is 180° .

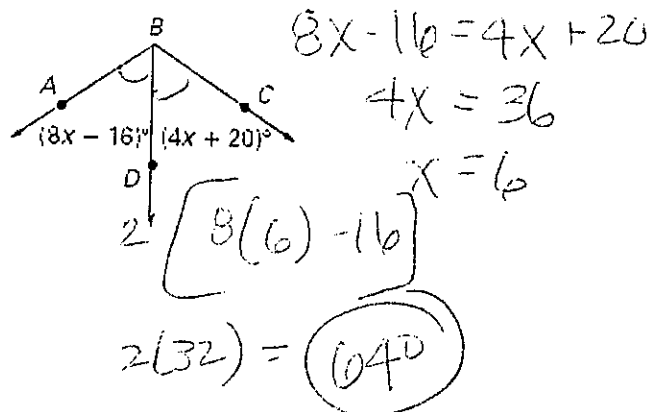
What's Your Angle Review

5a) What is the angle relationship used to determine the value of x below? Consecutive Interior

b) Determine the angle measure of the angle in bold.



6) BD bisects $\angle ABC$. Find $m\angle ABC$.



PUSH IT TO THE LIMIT.

Tuesday

1) Write the equation of the line through: $(-2, 1)$ and $(0, -5)$ $m = \frac{-5-1}{0-(-2)}$

$$m = -3$$

$$y = -3x + b$$

$$-5 = -3(0) + b$$

$$b = -5$$

$$y = -3x - 5$$

2) Write the equation of the line through: $(1, 5)$ and $(-5, 0)$ $m = \frac{0-5}{-5-1} = \frac{5}{6}$

$$y = \frac{5}{6}x + b$$

$$0 = \frac{5}{6}(-5) + b$$

$$\frac{25}{6} = b$$

$$y = \frac{5}{6}x + \frac{25}{6}$$

3) Write the equation of the line through the given point with the given slope:

through: $(2, 3)$, slope = $\frac{5}{2}$

$$y = \frac{5}{2}x + b$$

$$3 = \frac{5}{2}(2) + b$$

$$-2 = b$$

$$y = \frac{5}{2}x - 2$$

4) Write the equation of the line through the given point with the given slope:

through: $(-2, 3)$, slope = $-\frac{1}{2}$

$$y = -\frac{1}{2}x + b$$

$$3 = -\frac{1}{2}(-2) + b$$

$$-1 = b$$

$$y = -\frac{1}{2}x + 2$$

5) Solve the equation

$$7|5n+4| = 112$$

$$|5n+4| = 16$$

$$5n+4 = 16$$

$$5n = 12$$

$$n = \frac{12}{5}$$

$$5n+4 = -16$$

$$5n = -20$$

$$n = -4$$

6) Solve the equation:

$$8\left|\frac{p}{3}\right| - 3 = 13$$

$$8\left|\frac{p}{3}\right| = 16$$

$$\left|\frac{p}{3}\right| = 2$$

$$\frac{p}{3} = 2$$

$$\frac{p}{3} = -2$$

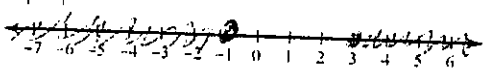
$$p = 6$$

$$p = -6$$

7) Solve the inequality and graph the solutions:

$$-2\left|\frac{n}{3}\right| \leq -2$$

$$\left|\frac{n}{3}\right| \geq 1$$



$$\frac{n}{3} \geq 1$$

$$\frac{n}{3} \leq -1$$

$$n \geq 3$$

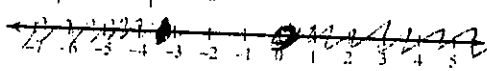
$$n \leq -3$$

OR

8) Solve the inequality and graph the solutions:

$$1 + 3|5a+8| \geq 25$$

$$3|5a+8| \geq 24$$



$$5a+8 \geq 8$$

$$5a+8 \leq -8$$

$$5a \geq 0$$

$$5a \leq -16$$

$$a \geq 0$$

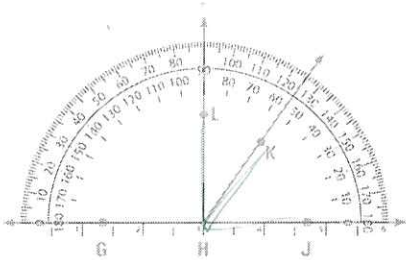
$$a \leq -\frac{16}{5}$$

Ken

Name: _____ TP: _____

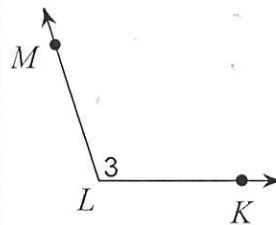
CRS	PPF 301 – Exhibit some knowledge of the angles associated with parallel lines (B3.1) PPF 401 – Find the measure of an angles using properties of parallel lines (B3.2) PPF 501 Use several angle properties to find an unknown angle measure
Objective	2.7 Identify the angles that are created when two parallel lines are intersected by a transversal 2.8 Use parallel line and transversal angle theorems to solve for the missing angle 2.9 Find the measure of a missing angle using complementary, supplementary, vertical, and parallel lines cut by a transversal angle properties *Review All Unit 2 Objectives*

Classify/Name/Measure Angles

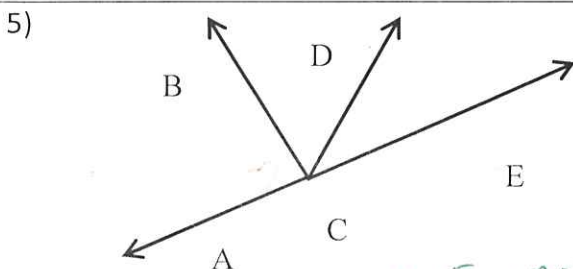


- 1) What is the vertex of all angles formed? **H**
- 2) True or False: $\angle KLH$ is pictured in the figure above.
- 3) $\angle LHK$ and $\angle KHJ$ are:
 - a) Nonadjacent, supplementary angles
 - b) Adjacent, supplementary angles
 - c) Nonadjacent, complementary angles
 - d) Adjacent, complementary angles.

- 4) Choose the wrong name for this angle:

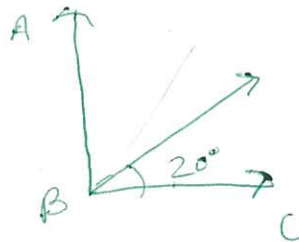


- A) $\angle MLK$
- B) $\angle LMK$
- C) $\angle L$
- D) $\angle 3$

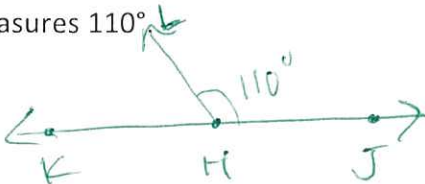


- a) Name all obtuse angles. **$\angle BCE, \angle ACD$**
- b) Name all acute angles. **$\angle ACB, \angle BCD, \angle DCE$**
- c) List an adjacent, supplementary pair of angles.
 $\angle ACB, \angle BCE$ or $\angle ACD, \angle DCE$

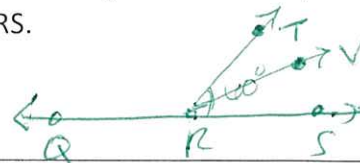
- 6) Draw a right angle $\angle ABC$. Draw ray BE such that $\angle ABE$ measures 20° .



- 7) Draw a straight angle: $\angle KHJ$. Draw ray HL such that $\angle LHJ$ measures 110° .

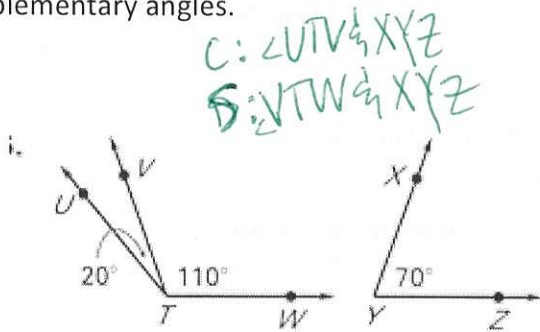


- 8) Draw a straight angle $\angle QRS$. Draw ray RT such that $\angle TRS$ measures 60 degrees. Draw ray RV such that RV bisects $\angle TRS$.

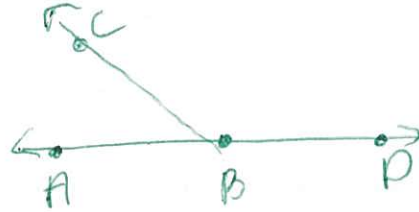


PUSH IT TO THE LIMIT.

9) Name a pair of complementary angles and a pair of supplementary angles.

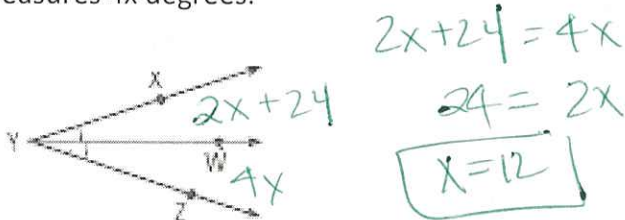


10a) Draw acute $\angle ABC$. Draw an adjacent obtuse angle $\angle CBD$ that is supplementary to $\angle ABC$.



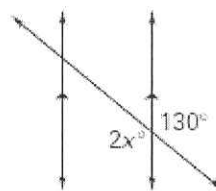
Angle Addition Postulate / Find Missing Angles / Angle Pair Relationships

11) In the diagram below, ray YW bisects $\angle XYZ$. $\angle XYW$ measures $2x + 24$ degrees and $\angle WYZ$ measures $4x$ degrees.



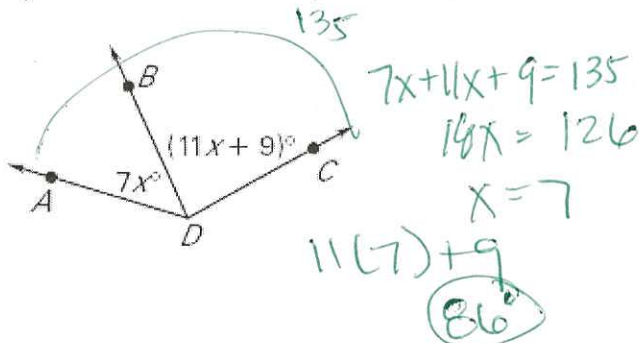
12)

a) What is the angle relationship? *Vertical*
b) What is the value of x ? *$2x = 130$*

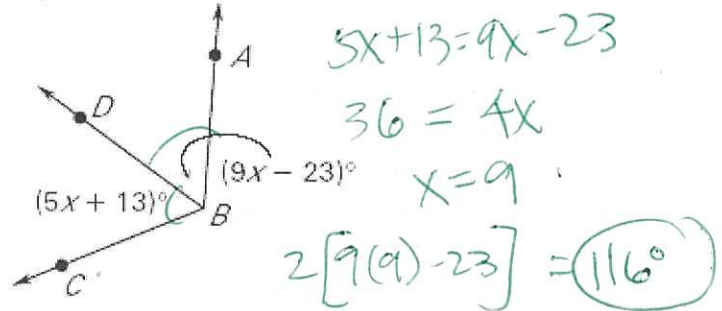


$$\begin{aligned} 2x &= 130 \\ x &= 65 \end{aligned}$$

13) Given $m\angle ADC = 135^\circ$, find $m\angle BDC$.



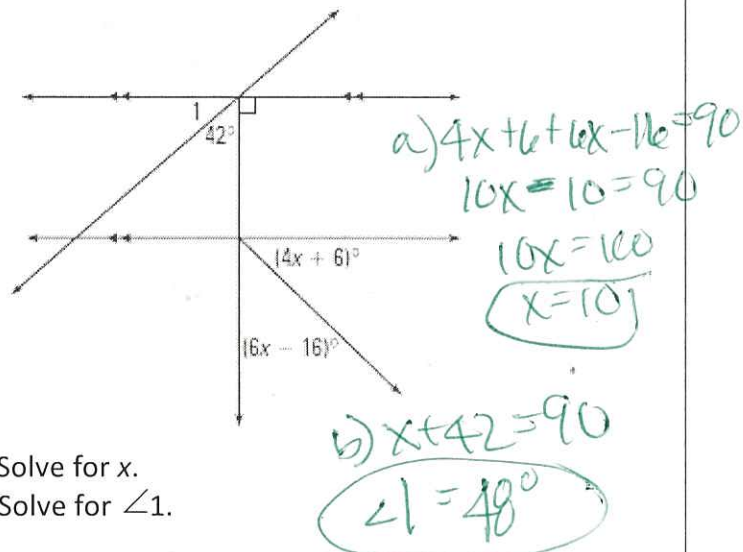
14) \overrightarrow{BD} bisects $\angle ABC$. Find $m\angle ABC$



15) $\angle ADC$ measures $3x$ degrees, and is supplementary to $\angle CDE$, which measures $2x + 10$. What is the measure of x ?

$$\begin{aligned} 3x + 2x + 10 &= 180 \\ 5x &= 170 \\ x &= 34 \end{aligned}$$

16)

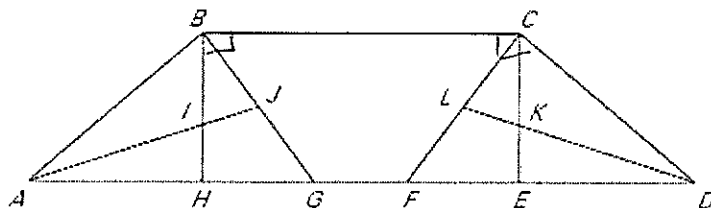


a) Solve for x .
b) Solve for $\angle 1$.

17)

Roof trusses can have several different layouts. The diagram below shows one type of roof truss made out of beams of wood. Use the diagram to identify two different examples of the indicated type of angle pair. In the diagram, $\angle HBC$ and $\angle BCE$ are right angles.

VARIES



33. Supplementary angles

① $\angle AGB$ & $\angle BGD$

② $\angle AFC$ & $\angle CFD$

34. Complementary angles

① $\angle HBG$ & $\angle GBC$

② $\angle ECF$ & $\angle FCB$

35. Vertical angles

① $\angle BFA$ & $\angle JIH$

② $\angle DKE$ & $\angle CKL$

36. Linear pair angles

① $\angle AGB$ & $\angle BGD$

② $\angle DEE$ & $\angle CEA$

37. Adjacent angles

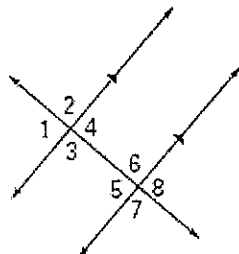
① $\angle AIB$ & $\angle IBJ$; ② $\angle FCE$ & $\angle ECD$

Find Unknown Angles / Parallel Lines & Transversals

19)

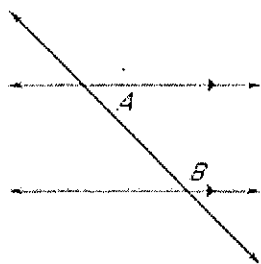
Complete the statement.

- $\angle 1$ and 5 are corresponding angles.
- $\angle 4$ and 6 are consecutive interior angles.
- $\angle 3$ and 6 are alternate interior angles.
- $\angle 1$ and 8 are alternate exterior angles.



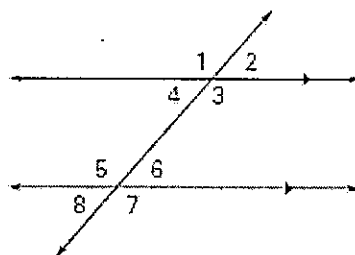
20)

Based on the diagram, which theorem would you use to support the statement $m\angle A + m\angle B = 180^\circ$?



- ☐ A) Alternate Interior Angles Theorem
- ☐ B) Alternate Exterior Angles Theorem
- ☒ C) Consecutive Interior Angles Theorem
- ☐ D) Parallel Lines Theorem

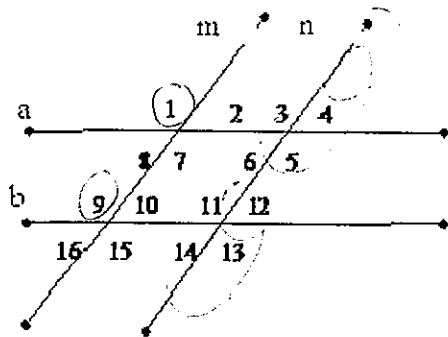
21)



What is the angle relationship between $\angle 4$ and $\angle 6$?

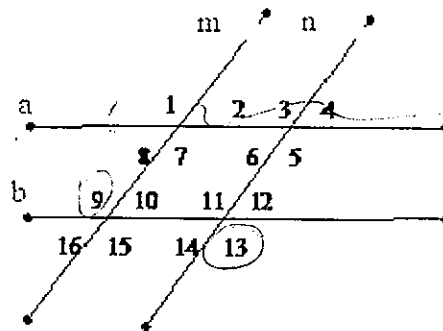
- ☐ A) The angles are corresponding angles.
- ☒ B) The angles are alternate interior angles.
- ☐ C) The angles are alternate exterior angles.
- ☐ D) The angles are consecutive interior angles.
- ☐ E) The angles are vertical angles.

24) If $\angle 1 \cong \angle 9$, then which pairs of lines, if any, must be parallel?



- a. $a \parallel b$ only
 b. $m \parallel n$ only
 c. $a \parallel b$ and $m \parallel n$
 d. No lines must be parallel
 e. Cannot be determined from the given information

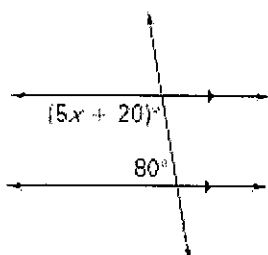
25) If $\angle 9 \cong \angle 13$, and then which pairs of lines, if any, must be parallel?



- f. $a \parallel b$ only
 g. $m \parallel n$ only
 h. $a \parallel b$ and $m \parallel n$
 i. No lines must be parallel
 Cannot be determined from the given information

26a) List the angle relationship

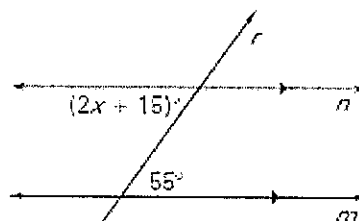
b) Solve for x.



CI
 $5x + 20 = 80$
 $5x = 60$
 $x = 12$

27)

What value of x makes $m \parallel n$?

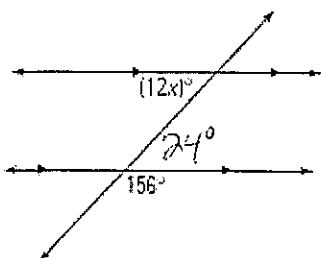


- A) 20
 B) 25
 C) 38
 D) 68
 E) 83

AI
 $2x + 15 = 55$
 $2x = 40$
 $x = 20$

28a) What is the angle relationship?

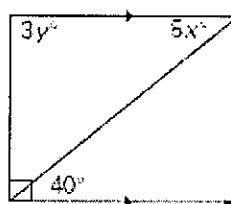
b) Find the value of x.



Supp
 AI
 $180 - 156 = 24$
 $24 = 12x$
 $x = 2$

29a) Find x.

b) Find y.

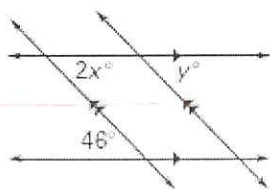


AI
 $40 = 5x$
 $x = 8$
 $3y = 90$
 $y = 30$
 Comp

PUSH IT TO THE LIMIT.

30a) Find x .

b) Find y .



$$46 = 2x \quad \text{AI}$$

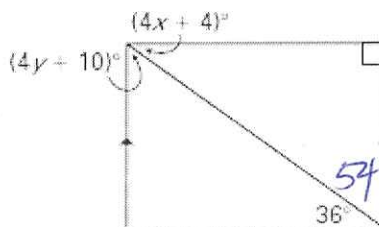
$$x = 23$$

$$2(23) = 46$$

$$y = 46^\circ \quad \text{C}$$

31)

Find x and y .



$$90 - 36 = 54 \quad \text{Comp.}$$

$$54 = 4y + 10 \quad \text{AI}$$

$$44 = 4y$$

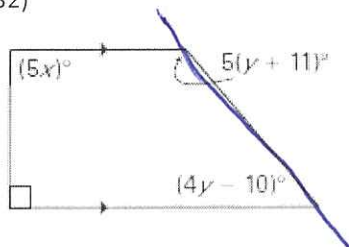
$$11 = y$$

$$4x + y = 36 \quad \text{AI}$$

$$4x = 32 \quad \text{AI}$$

$$x = 8$$

32)



$$5x = 90 \quad \text{Comp}$$

$$x = 18$$

5. What is the value of x ?

- ☒ A 18
- ☐ B 45
- ☐ C 85
- ☐ D 90
- ☐ E 95

$$5(y + 11) = 4y - 10 \quad \text{AI}$$

$$5y + 55 = 4y - 10$$

$$y = -65$$

6. What is the measure of the obtuse angle?

- ☒ A 15°
- ☐ B 50°
- ☐ C 120°
- ☐ D 130°
- ☐ E 180°

$$\text{*Challenge* Supp}$$

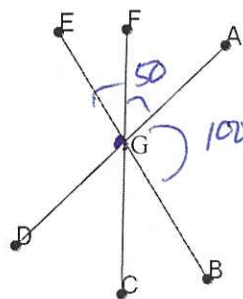
$$5(y + 11) + 4y - 10 = 180$$

$$5y + 55 + 4y - 10 = 180$$

$$9y = 135$$

$$y = 15$$

33) In the figure below, all line segments intersect at point G. $\angle FGA = 50^\circ$ and $\angle AGB = 100^\circ$. What is $m\angle FGE$?

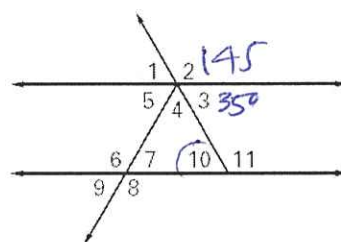


$$180 - 150 =$$

$$30^\circ$$

$$\text{Supp.}$$

34) In the figure below lines a and b are parallel, and $m\angle 2 = 145^\circ$. Find the measure of $\angle 10$.



$$180 - 145 = 35$$

$$\angle 10 = 35^\circ \quad \text{AI}$$

PREPARE FOR YOUR EXIT SLIP. YOUR TEACHER WILL SELECT WHICH PROBLEM(S) YOU ARE TO COMPLETE IN PREPARATION FOR YOUR QUIZ TOMORROW

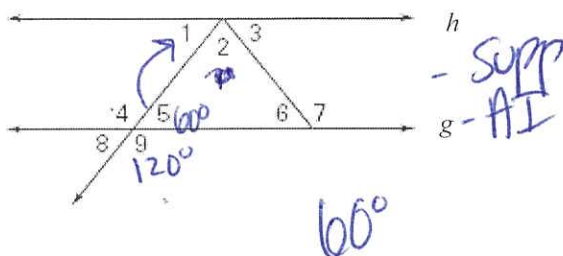
PUSH IT TO THE LIMIT.

Name: key TP: _____

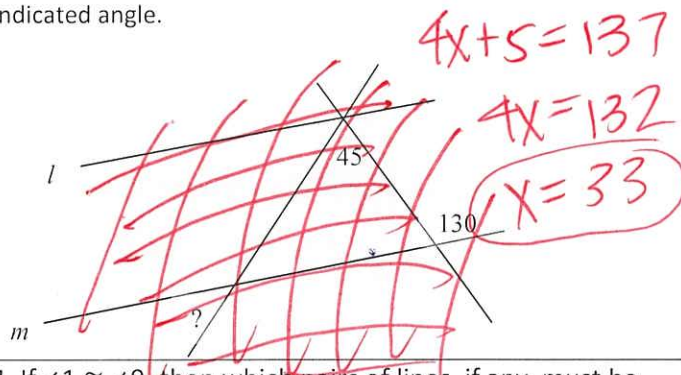
HW#13: Quiz 3 Review
Geometry
Due Date: Thursday, Sept. 27th, 2012

Failure to show work on all problems or use complete sentences will result in a LaSalle.

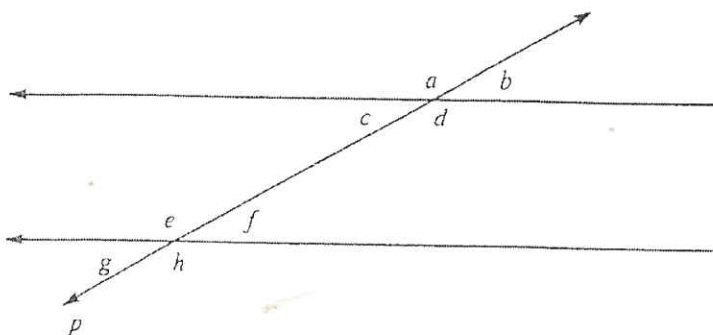
1. In the figure below, lines h and g are parallel, $m\angle 2 = 5^\circ$. Find the measure of $\angle 5$.



2. In the figure below, lines l and m are parallel. Find the indicated angle.

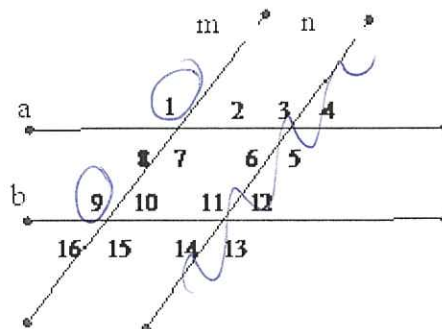


3. In the figure below, line s is parallel to line t , and line p is a transversal crossing both lines s and t . Which of the following lists 3 angles that are equal in measure?



- A. angle a , angle b , angle c
B. angle a , angle c , angle d
C. angle a , angle c , angle f
D. angle a , angle d , angle e
E. angle b , angle d , angle e

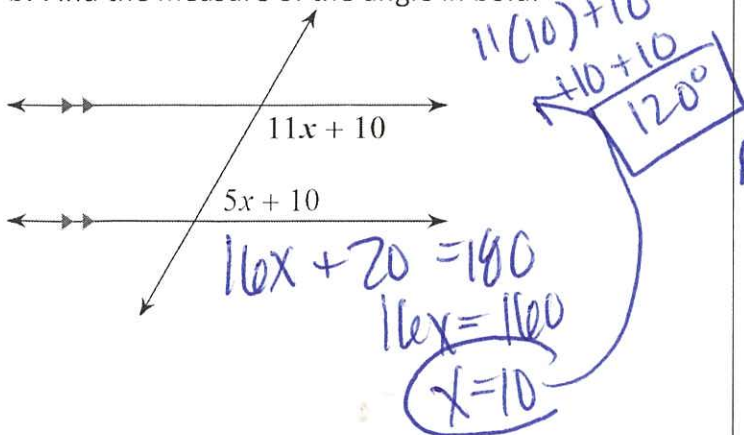
4. If $\angle 1 \cong \angle 9$, then which pairs of lines, if any, must be parallel?



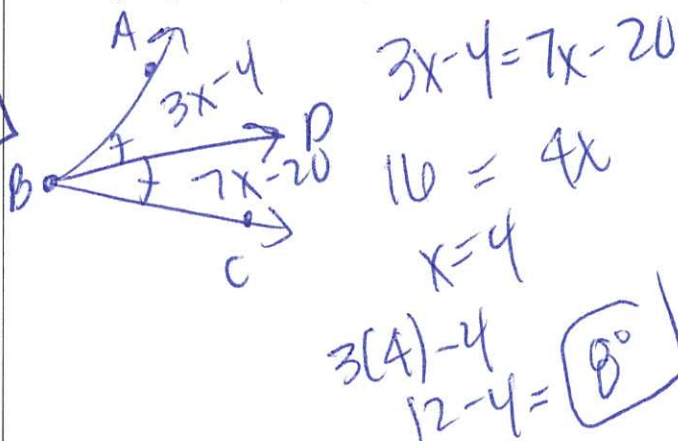
- a. $a \parallel b$ only
b. $m \parallel n$ only
c. $a \parallel b$ and $m \parallel n$
d. No lines must be parallel
e. Cannot be determined from the given information

- 5a. What is the angle relationship used to find the value of x ? Consecutive Interior

- b. Find the measure of the angle in bold.



6. \overline{BD} bisects $\angle ABC$. The measure of $\angle ABD$ is $3x - 4$ degrees, and $m\angle DBC$ is $7x - 20$. What is the measure of each angle? (DRAW a picture).



PUSH IT TO THE LIMIT.

7) Write the equation of the line through: $(-5, 1)$ and $(-3, -2)$

8) Write the equation of the line through: $(-4, -1)$ and $(-3, -5)$

9) Write the equation of the line through the given point with the given slope: through: $(3, -1)$, slope = $-\frac{2}{3}$

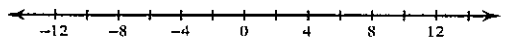
10) Write the equation of the line through the given point with the given slope: through: $(3, 2)$, slope = $\frac{5}{3}$

11) Solve the equation:
 $2|6 - 5n| = 72$

12) Solve the equation:
 $3 + 8|x - 9| = 67$

13) Solve the inequality and graph the solutions:

$$-7 + \left| \frac{n}{10} \right| > -6$$



14) Solve the inequality and graph the solutions:

$$-4|6 + 5x| - 7 \geq -63$$

